

... plan, direct and conduct survey work to determine and delineate boundaries and features of tracts of land, marine floors and underground works, prepare and revise maps, charts and other geographic products, and analyse, present and maintain geographical information about locations in space and time..

Indicative Skill Level

Most occupations in this unit group have a level of skill commensurate with a Bachelor degree or higher qualification. In some instances relevant experience and/or on-the-job training may be required in addition to the formal qualification (ANZSCO Skill Level 1).

Skilled Occupation Criteria

Long-lead time

Surveyors and Spatial Scientists meet the criteria for long lead time, as entry to this occupation requires a substantial training commitment.

- ▶ Employment as a Surveyor or Spatial Scientist generally requires the completion of a university qualification of at least four years study (full-time equivalent), such as a Bachelor of Surveying and Spatial Science.

High use

Surveyors and Spatial Scientists meet the criteria for high use, showing that the skills which people have acquired through education and training are being deployed for the uses intended.

- ▶ Based on advice from Universities Australia, university courses in surveying and spatial science have a strong degree of match with eventual employment as Surveyors and Spatial Scientists.
- ▶ Of new graduates employed as Surveyors and Spatial Scientists, 71% were found to have studied in a related field such as geomatic engineering (*Australian Graduate Survey, 2009*).

High risk

Surveyors and Spatial Scientists also meet the criteria for high risk/high disruption. This indicates that the occupation is important for the effective operation of an enterprise and/or the broader economy.

- ▶ Surveyors and Spatial Scientists are required to be licensed or registered with the relevant professional body before gaining employment in most states and territories.
- ▶ Surveyors and Spatial Scientists are important to meet government policy priorities at both the Commonwealth and state level. These include urban and regional land development, mine exploration activities, the Solar Flagship Program, the Nation Building Program and Building Australia Fund projects.

Occupation trends

ANZSCO: 2322

Cartographers and Surveyors¹

Employment level	14,500 A high proportion of workers (87.8%) are employed full-time.
6 digit employment (2006 Census)	232211 Cartographer 2830 232212 Surveyor 7170
Employment growth	Over the five years to August 2010, employment increased by 51.5% (compared with growth of 12.1% for all occupations). Employment is expected to decline by 1.0% over the next five years (compared with projected growth of 9.5% for all occupations).
Unemployment rate	Below average (around 2.6%) compared with all occupations.
Educational profile	Around 51.3% have a Bachelor degree or higher qualification.
Vacancies	The Internet Vacancy Index (IVI) rose by 10.7% over the 12 months to September 2010 to 132.3 (March 2006=100). Vacancies for all occupations increased by 19.4%.
Gender	Around 13.2% of workers are female (compared with 45.4% for all occupations).
Labour turnover	Around 6.3% of workers leave this occupation in a year compared with 13.1% for all occupations.
Age profile	The median age is 42 years and 48.3% are aged 45 years and over (compared with 38.5% for all occupations).
Earnings	Median full-time weekly earnings (before tax) are above average (\$1150).
Graduate outcomes	Graduate Careers Australia data show 95% of Bachelor degree graduates in surveying seeking full-time work were working four months after graduation, 57% of whom were employed as Design and Architecture Professionals, 17% as Engineering Professionals and 5% as Business, Information and Marketing Professionals.
Skill shortages	National shortages of Surveyors were identified through DEEWR research from 2006 to 2010 inclusive.

Labour market

232211 Cartographer: Not assessed

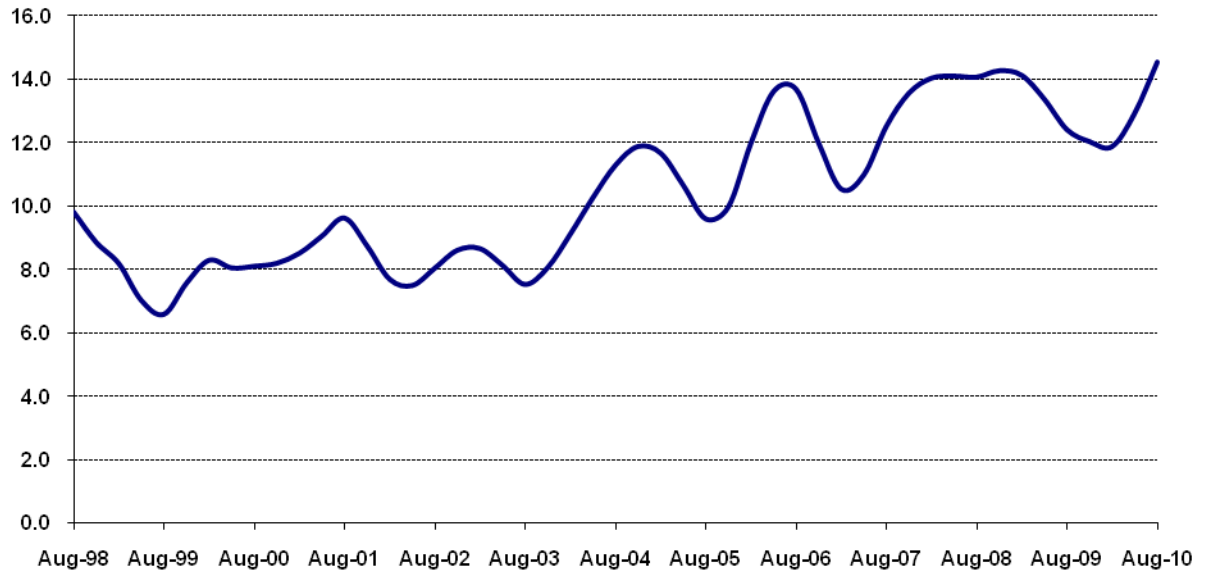
232212 Surveyor: Skill shortages have persisted since 2006 with consistently low numbers of suitable applicants per vacancy. Employer comments, however, suggest only about one in five applicants are considered by employers to be suitable with key reasons for unsuitability being lack of experience and qualifications, insufficient local knowledge or poor communication skills.

Summary

Employment has grown strongly over the past five years, but is expected to fall slightly over the next five years. Advertised vacancy numbers remain low compared with those recorded prior to the global recession. However, shortages of Surveyors have been persistent and the occupational group has a relatively old age profile suggesting there will be significant demand to replace existing workers who retire over the next decade.

¹ Analysis for the Skilled Occupations List (SOL) was conducted using Revision 1 of the Australian and New Zealand Standard Classification of Occupations (ANZSCO) First Edition, which classifies unit group 2322 as 'Surveyors and Spatial Scientists' and lists the occupations as 232212 Surveyor; 232213 Cartographer; and 232214 Other Spatial Scientist. However, the original classification of 'Cartographers and Surveyors' was used in the Occupational Trends analysis. The specific data sources used for the Occupation Trends analysis can be found on the Skills Australia website: <http://www.skillsaustralia.gov.au/SOLsummarysheets.shtml>.

Cartographers and Surveyors
Employed Persons ('000s) Aug 1998 to Aug 2010



Internet Vacancy Index (IVI) - 3 Monthly Average - Nov 2006 - Sept 2010
Cartographers and Surveyors (March 2006 = 100)

